

CLAIMS

What is claimed is:

- 5 1. A system for exchanging data utilizing Remote Direct Memory
Access comprising:
 a Network File System component for generating a file request in
 response to a system call;
 an External Data Representation component for describing the format of
10 said file request;
 a Remote Procedure Call component for initiating said file request with a
remotely located computer system; and
 a unifying layer for communicating said Remote Procedure Call with a
plurality of transport layer Remote Direct Memory Access implementations used
15 to exchange data with said remotely located computer system.
2. The system for exchanging data as recited in Claim 1, wherein
one of said plurality of Remote Direct Memory Access implementations is the
Virtual Interface Architecture.
- 20 3. The system for exchanging data as recited in Claim 2, wherein
said unifying layer comprises:

a first component for converting said Remote Procedure Call to a Remote Direct Memory Access formatted message; and

a second component for communicating said Remote Direct Memory Access formatted message to a particular transport layer Remote Direct Memory

5 Access implementation.

4. The system for exchanging data as recited in Claim 3, further comprising a plurality of said second components for communicating said Remote Direct Memory Access formatted message to various transport layer
10 Remote Direct Memory Access implementations.

5. The system for exchanging data as recited in Claim 4, wherein the Remote Direct Memory Access protocol is the default transport layer protocol for communicating said Remote Procedure Call.

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6. A method for communicating data using Remote Direct Memory Access comprising:

generating a file request using the Network File System protocol;

formatting said file request using the External Data Representation

20 protocol;

initiating a Remote Procedure Call for said file request;

formatting said Remote Procedure Call using a unifying layer for communicating with a plurality of transport layer Remote Direct Memory Access implementations; and

exchanging data using one of said Remote Direct Memory Access

5 implementations wherein said file request is performed.

7. The method for communicating data using Remote Direct Memory Access as recited in Claim 6, wherein one of said plurality of Remote Direct Memory Access implementations is the Virtual Interface Architecture.

8. The method for communicating data using Remote Direct Memory Access as recited in Claim 7, wherein said formatting said of Remote Procedure Call comprises:

converting the format of said Remote Procedure Call to a Remote Direct
15 Memory Access formatted message; and

utilizing an Application Programming Interface to communicate said Remote Direct Memory Access formatted message to a particular transport layer Remote Direct Memory Access implementation.

9. The method for communicating data using Remote Direct Memory Access as recited in Claim 8, wherein a plurality of said Application Programming Interfaces communicate said Remote Direct Memory Access

formatted message to said plurality of transport layer Remote Direct Memory Access implementations.

10. The method for communicating data using Remote Direct Memory Access as recited in Claim 9, wherein said exchanging data comprises using the Remote Direct Memory Access protocol as the default transport layer protocol for communicating said Remote Procedure Call.

11. A computer system comprising:

a bus;

a memory unit coupled to said bus; and

a processor coupled to said bus, said processor for executing a method for communicating data using Remote Direct Memory Access comprising:

generating a file request using the Network File System protocol;

formatting said file request using the External Data Representation protocol;

initiating a Remote Procedure Call for said file request;

formatting said Remote Procedure Call using a unifying layer for communicating with a plurality of transport layer Remote Direct Memory Access implementations; and

exchanging data using one of said Remote Direct Memory Access implementations wherein said file request is performed.

12. The computer system as recited in Claim 11, wherein one of said plurality of Remote Direct Memory Access implementations is the Virtual Interface Architecture.

5 13. The computer system as recited in Claim 12, wherein said formatting said of Remote Procedure Call comprises:

converting the format of said Remote Procedure Call to a Remote Direct Memory Access formatted message; and

utilizing an Application Programming Interface to communicate said Remote Direct Memory Access formatted message to a particular transport layer Remote Direct Memory Access implementation.

10 14. The computer system as recited in Claim 13, wherein a plurality of said Application Programming Interfaces communicate said Remote Direct Memory Access formatted message to said plurality of transport layer Remote Direct Memory Access implementations.

15 15. The computer system as recited in Claim 14, wherein said exchanging data comprises using the Remote Direct Memory Access protocol as the default transport layer protocol for communicating said Remote Procedure Call.

16. A computer-usable medium having computer-readable program code embodied therein for causing a computer system to perform a method for communicating data using Remote Direct Memory Access comprising:

generating a file request using the Network File System protocol;

5 formatting said file request using the External Data Representation protocol;

initiating a Remote Procedure Call for said file request;

formatting said Remote Procedure Call using a unifying layer for communicating with a plurality of transport layer Remote Direct Memory Access implementations; and

10 exchanging data using one of said Remote Direct Memory Access implementations wherein said file request is performed.

17. The computer-usable medium as recited in Claim 16, wherein one of said plurality of Remote Direct Memory Access implementations is the Virtual Interface Architecture.

18. The computer-usable medium as recited in Claim 17, wherein said formatting said of Remote Procedure Call comprises:

20 converting the format of said Remote Procedure Call to a Remote Direct Memory Access formatted message; and

utilizing an Application Programming Interface to communicate said Remote Direct Memory Access formatted message to a particular transport layer Remote Direct Memory Access implementation.

5 19. The computer-usable medium as recited in Claim 18, wherein a plurality of said Application Programming Interfaces communicate said Remote Direct Memory Access formatted message to said plurality of transport layer Remote Direct Memory Access implementations.

10 20. The computer-usable medium as recited in Claim 19, wherein said exchanging data comprises using the Remote Direct Memory Access protocol as the default transport layer protocol for communicating said Remote Procedure Call.